

Application No. 10/538,074
Amendment dated May 11, 2009
Reply to Office Action of February 11, 2009

Docket No.: 0696-0217PUS1

REMARKS

Claims 1-23 are now pending in the present application. The Applicants hereby reconfirm the election of Group I in the Reply filed on November 7, 2008. Thus, claims 9-14 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a non-elected group.

Claim Rejections – 35 USC § 112

Claims 1-8 have been rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. This rejection is respectfully traversed. Reconsideration and withdrawal thereof are requested.

The claims have been amended in order to recite proper terminology which complies with U.S. practice.

With regard to the rejection under 35 USC 112, second paragraph, each of the points raised by the Examiner has been given due consideration. The first objection relating to claim 1 is not fully understood. The claimed polymer composition is intended to be used as a stabilizing composition in peroxide bleaching of a cellulosic fiber material. As explained, for example, in the description on page 8, lines 20-22, it is preferred to add the peroxide and alkaline substance to the cellulosic fiber material after the addition of the stabilizing composition. Thus, the polymer composition does not have to contain the peroxide.

With respect to the recitation of broad and narrow embodiments, the claims have been amended to include additional dependent claims directed to the preferred and more preferred contents of these claims.

Concerning the objection to claim 3, it is to be noted that the “acidic pH” in claim 3 relates to the pH of the raw polymer (A) and not to the polymer solution defined in claim 1.

Accordingly, withdrawal of the rejections under 35 USC 112 is respectfully requested.

Rejection Under 35 USC 103(a)

Claims 1-8 have been rejected under 35 USC 103(a) as being obvious in view of US Patent 6,120,556 ('556 of Nishino et al.). This cited reference corresponds to EP 0814193 discussed in the present application on page 3.

EP 0814193 has been discussed in a Response filed on March 19, 2004 during the prosecution of the Finnish Priority Application which now has been allowed.

Claim 1 has been revised to state that the first polymer (A) comprises a copolymer of acrylic acid and/or methacrylic acid with an unsaturated dicarboxylic acid. In addition, the phrase in claim 3 concerning the homopolymerization of acrylic acid, methacrylic acid or maleic acid has been deleted.

Indeed such amendments have been made in the allowed Finnish application and in the granted EP patent 1,581,591B1.

During the prosecution of the Finnish application, with regard to Nishino et al., the following arguments have been made.

Nishino et al. disclose a stabilizing agent comprising at least the following three components (Col. 3, lines 39-60):

- (A) a homopolymer of α -hydroxyacrylic acid or a copolymer of α -hydroxyacrylic acid with another comonomer or a water-soluble salt or polylactone thereof,
- (B) a homopolymer of acrylic acid, methacrylic acid or maleic acid or a copolymer of at least two of said acids or a copolymer of acrylic acid, methacrylic acid or maleic acid with another comonomer or a water-soluble salt thereof, and
- (C) a conventional chelating acid comprising DTPA or TTHA.

Component (A) is soluble in water and is preferably a water-soluble salt of a homopolymer or copolymer of α -hydroxyacrylic acid (Col. 5, lines 39-42 and 51). In all of the examples, poly(sodium α -hydroxyacrylate) (PHAS) or sodium α -hydroxyacrylate/sodium acrylate copolymer (Copolymer 1) are used (Table 1). Although polylactones of α -hydroxyacrylic acid homopolymers and copolymers are

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mentioned by Nishino et al., there are no working examples involving such polylactones and additionally the polylactones do not satisfy the requirement of being soluble in water.

Component (B) is typically (Table 1):

- poly(sodium acrylate) (SPA1 or SPA2)
- sodium acrylate/methyl methacrylate copolymer (Copolymer 2)
- sodium acrylate/polyethyleneglycol methacrylate copolymer (Copolymer 3)
- butadiene/magnesium maleate copolymer (Copolymer 4) or
- acrylic acid/methyl methacrylate copolymer (Copolymer 5).

Nishino et al. do not specifically disclose any copolymer of maleic acid (or any other dicarboxylic acid) and acrylic acid or a copolymer of maleic acid (or any other dicarboxylic acid) and methacrylic acid. According to Nishino et al. the stabilizing agent comprising the above three components can be in the state of an aqueous solution having a pH value of 6 to 11, more preferably 8 to 10 (Col. 7, lines 41-43). The purpose of the pH adjustment of Nishino et al. is to make the solution "*useful for easily preparing a peroxide bleaching solution having an optimum pH value*" (Col. 7, lines 43-46). According to the examples of Nishino et al. the stabilizing agents were prepared by dissolving the components (A), (B), (C) and optionally (D) in water and adjusting the pH of the aqueous solutions to 6.9 to 10.2 (Col. 10, lines 62-67). The pH values of the prepared single aqueous solutions are not disclosed.

One of the key points is the comparison of the claimed range of at most 5 and the range of from 6 to 11 disclosed in the cited reference. In this respect note should be taken of the following Reference examples and Examples already present in the present description:

- Reference example 1 on page 13 showing that a pH of 5.1 resulted in a turbid final product which separated into two layers,

- Reference example 2 on page 13 showing that a pH of 5.4 resulted in a turbid final product which separated into two layers,
- Reference example 3 on page 14 showing that pHs of 5.4 and 5.5 resulted in a turbid final product which separated into two layers.

As unsatisfactory results were obtained in the pH range of between above 5 and 6, it is obvious that such results or even worse results can be expected for pHs in the range of from 6 to 11.

On the contrary, Examples 1 to 4 illustrating the present invention show that at various pH values within the range of from 3.7 to 4.1, clear final products were obtained which could be stored at room temperature. As expressed in claim 1, one of the key features of the claimed polymer composition is that it is in the form of a *stable aqueous polymer solution*.

In addition to being in the form of a stable aqueous polymer solution, the polymer compositions of the present invention give excellent bleaching results in terms of high brightness and high residual peroxide as evidenced by the bleaching trials of Examples 5 and 6.

In the light of these comments and amendments, it is clear that the Nishino et al. patent does not disclose, teach or suggest the invention as disclosed and claimed herein. Simply stated, the Nishino et al. reference fails to teach or disclose the presently claimed invention or teachings thereof within the context and scope of the present claims.

Accordingly, it is believed that this application is now in condition for allowance. Favorable action to this effect is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Raymond C. Stewart Reg. No. 21,066 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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